What Is Claimed Is:

1. A method for monitoring a tire condition of a vehicle, the monitoring being a function of the condition of the surface on which the vehicle is traveling.

2. The method as recited in Claim 1, wherein the monitoring is performed in at least two different independent monitoring modes as a function of the driving surface, the individual modes differing, in particular, by different calibration data sets (140, 150).

3. The method as recited in Claim 1, wherein the condition of the driving surface is described by a signal (45) representing the transmission of force between the wheels of the vehicle and the driving surface, the signal describing a time averaging of the transmission of force between the wheels of the vehicle and the driving surface in particular.

4. The method as recited in Claim 2, particularly as recited in Claim 3, wherein the calibration data sets (140, 150) are determined

- as a function of the condition of the driving surface, and in particular as a function of the signal (45) representing the transmission of force between the wheels and the driving surface, and/or
- by a command (40) initiated by the driver of the vehicle.

5. The method as recited in Claim 1, wherein the tire condition is monitored by using a wheel dynamics variable representing the wheel dynamics, and in particular the wheel dynamics variable representing the wheel dynamics being determined using the wheel rotational speed (22 through 30).

6. The method as recited in Claim 5, wherein the wheel dynamics variable representing the tire condition is determined by

- forming the difference between the wheel rotational speeds (120, 210) of at least two wheels and, in particular,
  - forming the differences between the wheel rotational speeds of the wheels on one axle and/or
  - the differences between the wheel rotational speeds of the wheels located diagonally to each other

and/or

- forming the difference of the wheel rotational speeds between
  - the sum of the wheel rotational speeds of the wheels on the front axle and
  - the sum of the wheel rotational speeds of the wheels on the rear axle

  normalized to the vehicle speed

and/or

- forming the difference of the wheel rotational speeds between
  - the sum of the wheel rotational speeds of the wheels on the left side and
  - the sum of the wheel rotational speeds of the wheels on the right side

  normalized to the vehicle speed.

7. The method as recited in Claim 4 and 6, wherein the calibration data sets (140, 150) are determined at predefinable times using the differences between the wheel rotational speeds (120), and in particular the times are predefined

- as a function of the condition of the driving surface, in particular as a function of the driving surface condition variable (45),

  and/or

- by a command (40) initiated by the driver of the vehicle.

8. The method as recited in Claim 7, wherein the monitoring of the tire condition is based on forming the difference between the wheel rotational speeds (210) and, for the purpose of monitoring, a malfunction is detected when the currently determined differences between the wheel rotational speeds (210) lie outside a predefined range in relation to the calibration data set (140, 150) valid for the particular condition of the driving surface.

9. The method as recited in Claim 8, wherein the driver of the vehicle is informed of the occurrence of a malfunction; in particular, the driver being informed of a malfunction optically and/or acoustically (90).

10. The method as recited in Claim 8, wherein the operating state of a brake system in the vehicle is modified (80) based on the detected malfunction, the operating state of the brake system being characterized by the variables used for the operation of the brake system.

11. A device for monitoring a tire condition of a vehicle, the monitoring being a function of the condition of the surface on which the vehicle is traveling.

12. The device as recited in Claim 11, wherein

- the monitoring is performed in at least two different, independent monitoring modes, the individual modes differing in particular by different calibration data sets (140, 150), and/or
- the condition of the driving surface is described by a signal (45) representing the transmission of force between the wheels of the vehicle and the driving surface, the signal describing a time averaging of the transmission of force between the wheels of the vehicle and the driving surface in particular.

13. The device as recited in Claim 12, wherein the calibration data sets (140, 150) are determined

- as a function of the condition of the driving surface, in particular as a function of the signal (45) representing the transmission of force between the wheels and the driving surface, and/or
- by a command (40) initiated by the driver of the vehicle the calibration data sets (140, 150) being determined in particular at predefinable times using the differences between the wheel rotational speeds (120), and the times being predefined in particular
- as a function of the condition of the driving surface, in particular as a function of the driving surface condition variable (45),
  and/or
- by a command (40) initiated by the driver of the vehicle.

14. The device as recited in Claim 13, wherein the monitoring of the tire condition is based on forming the difference between the wheel rotational speeds (210), for the purpose of monitoring, a malfunction being detected when the currently determined difference between the wheel rotational speeds (210) lies outside a predefined range in relation to the calibration data set (140, 150) valid for the particular condition of the driving surface.

15. The method as recited in one of the preceding claims, wherein the tire condition being monitored is the air pressure prevailing in the tire and/or wear condition of a tire.